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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte LEO MARK PEDLOW, JR.

Appeal 2009-007628
Application 09/881,609
Technology Center 2400

Decided:¹ May 29, 2009

Before MURRIEL E. CRAWFORD, HUBERT C. LORIN, and
JOSEPH A. FISCHETTI, *Administrative Patent Judges*.

FISCHETTI, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

STATEMENT OF THE CASE

Appellant seeks our review under 35 U.S.C. § 134 of the Examiner's final rejection of claims 1-12 and 20-22. Claims 13-19 and 23-25 are cancelled. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

SUMMARY OF DECISION

We AFFIRM-IN-PART.

THE INVENTION

Appellant claims an apparatus for television systems, and specifically, to an apparatus for correcting corrupted digital video transport streams using a constant minimum bandwidth allocation. (Specification 1:8-10.)

Claim 1, reproduced below, is representative of the subject matter on appeal.

Claim 1: A video-on-demand (VOD) system, comprising:
a transmission channel;
a plurality of receivers coupled to the transmission channel, a VOD client at each receiver capable of subscribing to one or more VOD sessions over a transport stream; and
a headend coupled to the transmission channel, said headend including a video server than can transmit one or more VOD sessions to one or more receivers, and a control server coupled to the video server, the control server to dynamically allocate and terminate VOD sessions over the transport stream as VOD clients are added and terminated, and to cause the video server to transmit one or more dummy sessions over the transport stream to maintain the predetermined

minimum bandwidth of content over the transport stream.

THE REJECTION

The Examiner relies upon the following as evidence of unpatentability:

Payton	US 5,790,935	Aug. 4, 1998
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The following rejections are before us for review.

The Examiner rejected claims 1-12 and 20-22 under 35 U.S.C. § 102(b) as anticipated by Payton.

ISSUE

Has Appellant shown that the Examiner erred in rejecting claims 1-12 and 20-22 on appeal as being unpatentable under 35 U.S.C. § 102(b) on the grounds that a person with ordinary skill in the art would understand Payton by adding data to an otherwise unoccupied bandwidth to insure that as much data is sent during transmission times meets the claim requirement to maintain the predetermined minimum bandwidth of content over the transport stream.

FINDINGS OF FACT

We find the following facts by a preponderance of the evidence:

1. The Examiner found that

both Payton and the current invention add more data to be sent out. While the current application adds data when usage is low, Payton's adding of data when ever possible is doing the same thing. That is, adding data to make sure that as much (a minimum level) data is sent.

(Answer 13.)

2. The Specification describes the problem as

[w]hen data is not evenly distributed, the concentration of null packets is locally increased due to the burst nature of the multiplexer algorithm. Consequently, the type of multiplexer algorithm used may exasperate the synchronization problem, making the number of repeated null packets appear to be greater than is actual and therefore reduce the threshold to the onset of the problem.

(Specification 14:10-14.)

3. The Specification describes one way to resolve the MPEG frame synchronization problem as:

the headend maintains a constant minimum bandwidth allocation to reduce the number of null packets in the transport stream. In constant minimum bandwidth allocation, the headend system controlling assignment of VOD clients to RF carriers and PIDs insures that each RF channel and its associated transport stream has a minimum non-null content at all times.

(Specification 15:17-22.)

4. The Specification describes using dummy sessions of packets such that

[t]he actual minimum content varies from one system to another and depends upon factors such as video bit rate, modulation constellation, multiplexer homogeneity, downstream bit error rate (BER), etc. To maintain a minimum non-null content for each RF channel at all times, the VOD control server 415 creates dummy copies of purchased content and/or activates "padding streams" (hereinafter referred to as "dummy

sessions"). The dummy sessions cause the video server(s) 420 to spool out content to PIDs. However, no client is assigned or authorized to access the content. This would create non-null content on the transport stream that is above the threshold for minimum content. When client demand for channel bandwidth exceeds the minimum bandwidth (e.g., a threshold), the session streams can be terminated and the bandwidth assigned to revenue producing session streams.

(Specification 17:3-13.)

5. Payton discloses that

... the transport capacity for the virtual on-demand system of the present invention need only be sufficient to meet the subscribers' on-demand requests that cannot be serviced from their respective local storage systems. As shown in FIG. 1b, broadcasting the recommended items to the subscribers during off-peak hours (download access 14) and storing the items locally (local access 16) reduces the on-demand access 18 of transport system by 95% or more depending on the effectiveness of the collaborative filtering system. As a result, the peak transport capacity 20 required to provide virtual on-demand service can be less than 5% of the bandwidth that would be required to provide a true on-demand system. Commercially available satellites or cable systems can provide this bandwidth cost effectively.

(Payton, col. 4, ll. 30-44.)

6. Payton discloses dummy packets in that programming not otherwise requested but probable to be watched is sent to a viewer in that:

[w]hen the recommended items reach the top of the refresh queue 47, they are retrieved from repository 34 and are broadcast to the local users, preferably during off-peak viewing hours so that

all of the system's bandwidth is available to service on-demand requests during on-peak hours. In response to a subscriber's on-demand request that cannot be served by that subscriber's local server 28, the scheduling processor 46 merges requests for that item and places it in an on-demand 49 queue. Items broadcast in response to subscriber requests take priority over the broadcast of the recommended items. As a result, the subscribers' on-demand requests are served either from their local server or from the central distribution server 24 virtually on-demand. The subscribers encounter only small delays so that the system appears transparent. If the system becomes loaded, the scheduling processor 46 limits the number of items, in addition to those stored on the subscribers' local servers, that are available to the subscribers. This has the effect of reducing the number of on-demand requests made to the central distribution server.

(Payton, col. 5, ll. 25-45.)

7. Payton discloses

the scheduling processor 46 monitors available bandwidth over the digital transport system 26 (step 86) and determines whether sufficient bandwidth is available for transmission of another item. If bandwidth is available and the on-demand queue 49 is empty (step 88), the processor 46 retrieves the next item from the refresh queue 47 (step 90), removes the item from the queue 47 (step 92), and updates the subscriber profiles to reflect the storage change that will occur when the item is received by the subscribers' local servers 28 (step 94).

(Payton, col. 7, ll. 37-47.)

8. Payton discloses that "...the digital items are preferably encrypted so that downloaded items cannot be accessed without first being paid for." (Payton, col. 4, ll. 64-66.)

PRINCIPLES OF LAW

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir.), *cert. denied*, 484 U.S. 827 (1987).

ANALYSIS

The rejections are affirmed as to claims 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 20, 21, and 22 and reversed as to claims 2 and 9. The Appellant does not provide a substantive argument as to the separate patentability of claims 5, 7, 8, 10, 11, 12, 20, 21 and 22. Therefore, regarding the claims whose rejection is affirmed, we address only claim 1. Claims 5, 7, 8, 10, 11, 12, 20, 21, and 22 fall with claim 1. *See*, 37 C.F.R. § 41.37(c)(1)(vii) (2008).

Appellant argues that the Examiner's equating the recommended items in Payton as "dummy sessions" is error because

the "recommended items" described in Payton are not dummy sessions in at least that recommended items are predicted to be, and sent with the intention that they will be locally stored and viewed by customers in a virtual video-on-demand (VOD) system. Additionally, the recommended items in Payton are sent to reduce the amount of

bandwidth used by the true VOD system in Payton, and thus cannot be sent "to maintain a predetermined minimum bandwidth" in the video-on-demand (VOD) system recited in claim 1.

(Appeal Br. 10-11.)

We disagree with Appellant. The Examiner maintains, and we agree, that Payton discloses maintaining a predetermined minimum bandwidth because Payton, like Appellant's device, adds data when usage is low to make sure that as much (a minimum level) data is sent. (FF 1.) Appellant's claim 1 is drawn to an article, and thus we are constrained to look to the structure of the device and how the claim structurally defines over the prior art. As such, taking the frame in time where the recommended video items are being sent in Payton, we find that the bandwidth is being filled with recommended content to occupy otherwise vacant or null spaces defined by unused bandwidth. To delve into the type of content being transmitted as a way to determine patentability as Appellant suggests would be error in that such an analysis would attempt to distinguish the prior art by content. This is especially true since the dummy sessions are described as having the sole purpose of occupying bandwidth without respect to content (FF 4). Patentable weight need not be given to descriptive material absent a new and unobvious functional relationship between the descriptive material and the substrate. *See In re Lowry*, 32 F.3d 1579, 1582-83 (Fed. Cir. 1994). Thus, we agree with the Examiner that Payton discloses dummy sessions which maintain a predetermined minimum bandwidth because such data adds to an otherwise null bandwidth space.

Appellant further argues that in Payton, "...the recommended item is sent to reduce bandwidth usage during peak hours, with the intention and a

high probability that the subscriber will in fact view the recommended item, and not to maintain a minimum bandwidth.” (Appeal Br. 12.) We disagree with Appellant because it is not assured in Payton that the recommended item will be viewed or even considered by the recipient (FF 5, 6, 7). Thus, such an unviewed recommended item would have had the sole purpose of occupying otherwise unused bandwidth during transmission, similar to Appellant’s dummy sessions.

Appellant argues that “...Payton teaches away from a server, such as the central distribution system, causing a dummy session to be transmitted to maintain a minimum bandwidth.” (Appeal Br. 16.) We disagree with Appellant. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant. The degree of teaching away will of course depend on the particular facts; in general, a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994) (citing *United States v. Adams*, 383 U.S. 39, 52 (1966)). The scheduling processor 46 in Payton monitors available bandwidth over the digital transport system 26 and determines whether sufficient bandwidth is available for transmission of another item (FF 7). If bandwidth is available, transmission of a recommended item occurs (FF 7). A person with ordinary skill in the art would not be discouraged by this disclosure because the processor 46 is functioning just as Appellant’s server in that is adding content to otherwise vacant bandwidth (FF 4).

Claim 2:

Claim 2 recites: “*wherein the control server to prevent each receiver from decoding the dummy sessions.*” (Emphasis added.) Appellant argues that “... Payton intends the requested items and the recommended items be accessed and decoded, and thus, Payton does not expressly or inherently teach or suggest, and in fact teaches away from, preventing each receiver from decoding content, particularly the recommended items.” (Appeal Br. 18.) We agree with Appellant. In Payton, the goal is to provide recommended content (FF 6) which is usable at the discretion of the receiver. Thus, a controller as claimed, which prevents each receiver from decoding the dummy sessions, cannot be anticipated by one which does not prevent decoding.

Claim 3:

Claim 3 recites: “*wherein the control server, if necessary, to transmit one or more dummy sessions over the transport stream to maintain a minimum bandwidth of content over the transport stream to ensure that each receiver can synchronize to a subscribed VOD session.*” (Emphasis added.) The Examiner maintains Payton discloses ensuring that each receiver can synchronize to a subscribed VOD session in that “...every subscriber can receive, and thus synchronize, with their MPGE movie by ensuring that recommended ones are transmitted in advance...” (Answer 4-5).

We find the Examiner’s interpretation to be reasonable because receiving for viewing purposes would require *synchronizing to a subscribed VOD session*.

Claim 4:

Claim 4 recites: “*wherein the control server to determine whether the bandwidth of content over the transport stream is below a predetermined threshold, and to cause the video server to transmit one or more dummy sessions, as necessary, to maintain the bandwidth of content at or above the predetermined threshold.*” (Emphasis added.) Appellant maintains that the limitation of claim 4 is not disclosed in Payton because

[d]etermining when it is possible to send another item during refresh broadcasts and sending the next item on the list when there is bandwidth available, cannot be interpreted to mean determining whether the bandwidth of content over the transport stream is below a predetermined threshold, and transmitting a dummy session to maintain the bandwidth above the threshold. This is because, in Payton, when the on-demand queue and the refresh queue are empty, no content will be sent.

(Appeal Br. 20.)

We disagree with Appellant. As discussed *supra*, the claims at issue are article claims reciting bandwidth structure which is met by Payton when the scheduling processor broadcasts during off-peak viewing hours so that all of the system's bandwidth is available to service on-demand requests during on-peak hours. In this mode, the bandwidth of content is at the predetermined threshold namely, at the capacity level of on-peak hours.

Claim 6:

Claim 6 recites: “*wherein said headend includes a transmitter having an MPEG frame synchronizer, encoder, and modulator.*” (Emphasis added.)

Appellant argues that “... the content delivered to the system in Payton is delivered in a compressed and encoded format, and thus, there is no need to encode the content.” (Appeal Br. 22.) We disagree with Appellant. First,

Payton explicitly discloses that the transmitted data is encrypted so that downloaded items cannot be accessed without first being paid for (FF 8.). Nowhere does Payton disclose or intimate that the content is encoded when the scheduling processor receives it as Appellant's argument suggests. The Examiner maintains that an encoder is inherent to encode the MPEG video. We agree. The disclosure in Payton of encrypted data makes it clear that the missing description of an encoder is necessarily present and that it would be so recognized by persons of ordinary skill. *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999).

Claim 9:

Claims 9 recites: "*wherein when the control server receives a request for a new VOD session from a VOD client, the control server terminates one or more of the one or more dummy sessions, and causes transmission of the new VOD session over the transport stream.*" (Emphasis added.)

Appellant argues that "Payton describes how the system in Payton prioritizes between retrieving content from the requested on-demand queue and recommended items in the refresh queue, and does not provide for the termination of the transmission." (Appeal Br. 23.) We agree with Appellant. The refresh feature of the Payton system does not cause the termination of transmission, and thus we will not sustain the rejection of claim 9.

CONCLUSIONS OF LAW

We conclude the Appellant has not shown that the Examiner erred in rejecting claims 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 20, 21, and 22 under 35 U.S.C.

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§ 102(b) as anticipated by Payton, and has shown that the Examiner erred in rejecting claims 2 and 9 under 35 U.S.C. § 102(b) as anticipated by Payton.

DECISION

The decision of the Examiner to reject claims 1, 3, 4, 5, 6, 7, 8, 10, 11, 12, 20, 21, and 22 is AFFIRMED.

The decision of the Examiner to reject claims 2 and 9 is REVERSED.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a). *See* 37 C.F.R. § 1.136(a)(1)(iv) (2007).

AFFIRMED-IN-PART

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